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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,867	02/07/2001	Achim Philipp	PHIL3005/JEK	4065

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EXAMINER

LUU, THANH X

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 05/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,867

Applicant(s)

PHILIPP ET AL.

Examiner

Thanh X Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to amendments and remarks filed October 17, 2002. Claims 10-18 are currently pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 10-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear what it means for a sensor and illumination unit to be "identical." Thus, one of ordinary skill in the art would not be able to make and/or use the claimed invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10-13 and 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 10, it is unclear in its given context how sensor and illumination units are "identical." Further it is unclear if the sensors are identical to each other (and

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the illumination units are identical to other illumination units) or the sensor and illumination units are identical with respect to each other.

Regarding claim 11, it is unclear how illumination units are identical, yet the illumination units have different wavelengths.

Regarding claim 13, "the bank notes" lacks proper antecedent basis. It is unclear how many bank notes are being detected.

Regarding claim 15, it is unclear in its given context how the illumination is simultaneous (claimed in claim 14), yet the light is alternately changed.

Regarding claim 18, "each bank note" lacks proper antecedent basis. As claimed, there is only a single bank note.

Claims 12, 16 and 17 are indefinite by virtue of their dependency on an indefinite claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 10 and 12, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Naruse (U.S. Patent 4,723,072).

Regarding claims 10 and 12, Naruse discloses (see Figure 8) an apparatus for determining the fitness of a bank note (2) by sensing the bank note transported along a transport path (A) by a transport device, comprising: a plurality of sensor and

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illumination units (100, 102, 110, 118) positioned along each side (above and below) of the transport path, the sensor and illumination units being focused at a single predetermined section (the section corresponding to the surface area of the bank note in the transport path) of the transport path. Naruse also discloses (see column 7, lines 54-55) the sensors are positioned in a linear arrangement positioned perpendicular to the transport path (see Figure 1). The sensor and illumination units are housed in 114 and 120 (see Figure 8) and comprise the same number of elements and thus, as understood, are identical.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11, 14, 15 and 18, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Laskowski et al. (U.S. Patent 6,101,266).

Regarding claims 11, 14, 15 and 18, Naruse discloses the claimed invention as set forth above. Naruse further discloses (see Figure 8) a method of determining the fitness of a bank note (2) by sensing the bank note transported along a transport path (A), comprising the steps of: simultaneously illuminating each side of the bank note at a single predetermined section (on the bank note) of the transport path with light of the same wavelength, and evaluating (134) light diffusely reflected from the bank note to determine the fitness. Naruse further disclose (see Figure 8) the sensors imaging the

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bank note as it travels along the transport direction, thus, a one-dimensional evaluation is performed for determining fitness. Naruse does not specifically disclose each illumination unit comprising two illumination sources of different wavelengths, which are operated alternately or using light of different wavelengths alternately in time.

Laskowski et al. teach (see Figures 2 and 3) of a bank note inspection device and method in which two illumination sources (32) comprise two different wavelengths and are operated alternately (see column 7, lines 1-5). Laskowski et al. further teach (see column 8, lines 1-10) that a more complete inspection of bank notes is conducted by using multiple wavelengths of light. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide alternately operated light sources with different wavelengths in the apparatus and method of Naruse in view of Laskowski et al. to improve detection by providing a more comprehensive inspection of bank notes.

9. Claims 16 and 17, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Laskowski et al. as set forth above, and further in view of Liu et al. (U.S. Patent 6,040,584).

Regarding claims 16 and 17, Naruse discloses (see Figure 2) areas (4, 6) on the bank note are fixed in accordance with the currency and the denomination (see also column 3, lines 30-32). Naruse does not specifically disclose using a different imaging resolution. Liu et al. teach (see Figure 9 and column 10, lines 56-67) of a bank note inspection method that divides a bank note into different areas based on currency and denomination, and evaluates the bank note at different resolutions (further division of

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the regions; e.g. region 501 versus region 508). Liu et al. further teach (see column 10, lines 65-67) that the accuracy in detecting bank notes is increased with more divided regions or different resolutions. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to image the areas at different resolutions in the method of Naruse in view of Laskowski and Liu et al. to improve detection by increasing the accuracy of inspection.

10. Claim 13, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Mazur et al. (U.S. Patent 6,241,069).

Regarding claim 13, Naruse further discloses (see Figure 8) lenses (108, 116) provided before the sensors (110, 118) to produce a one-to-one image of the bank notes to be investigated on the sensors. Naruse does not specifically disclose using gradient lenses. Mazur et al. teach (see Figure 14b) of a bank note inspection apparatus using a linear arrangement of gradient lenses (114a and 114b). Mazur et al. further teach (see column 45, lines 19-24) that gradient lenses maximize the accuracy of the detection system. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a linear array of gradient lenses before the sensors of Naruse in view of Mazur et al. to improve detection as taught.

Response to Arguments

11. Applicant's arguments filed October 17, 2002 have been fully considered but they are not persuasive.

Regarding the rejection of all the claims over Naruse, Applicant asserts that Naruse does not disclose the sensor and illumination units focused at a single

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predetermined section of the transport path. Examiner disagrees. As set forth above, Naruse does disclose (see Figure 8) the sensor and illumination units focused at a single predetermined section (the section corresponding to the surface area of the bank note in the transport path) of the transport path. That is, it is a reasonable interpretation that the surface area of the bank note in the transport path corresponds to a single predetermined section of the transport path. Thus, the claim invention is indistinguishable from the reference and remains either anticipated or obvious over Naruse.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-

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0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
May 22, 2003



Thanh X. Luu
Patent Examiner